UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte PAUL C. ANDERSON, PAUL S. CHOMET, MATTHEW C. GRIFFOR, and ALAN L. KRIZ

Appeal No. 2006-0102
Application No. 09/732,439

ON BRIEF

Before SCHEINER, ADAMS, and GRIMES Administrative Patent Judges.

ADAMS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 59-63, 72 and 73. The only remaining claims, claims 64-71 and 74-96 were withdrawn from consideration as drawn to a non-elected invention.

Claims 59 and 61 are illustrative of the subject matter on appeal and are reproduced below:

59. A transformed monocot plant, which plant is substantially tolerant or resistant to a reduction in water availability, the cells of which comprise a recombinant DNA segment comprising a preselected DNA segment encoding an enzyme which catalyzes the synthesis of the osmoprotectant proline, wherein the enzyme is expressed in an amount effective to confer tolerance or resistance to the transformed plant to a reduction in water availability.

61. A fertile transgenic Zea mays plant comprising a recombinant DNA segment comprising a promoter operably linked to a first DNA segment encoding an enzyme which catalyzes the synthesis of the osmoprotectant proline, wherein the first DNA segment is expressed so that the level of the enzyme is increased in transgenic Zea mays plant, and wherein the recombinant DNA segment is heritable.

The references relied upon by the examiner are:

Verma et al. (Verma I)	5,344,923	Sep. 6, 1994
Verma et al. (Verma II)	5,639,950	Jun. 17,1997
Adams et al. (Adams '98)	5,780,709	Jul. 14, 1998
Adams et al. (Adams '01)	6,281,411	Aug. 28, 2001

Barnett et al. (Barnett), "Amino acid and protein metabolism in Bermuda grass during water stress," Plant Physiol., Vol. 41, pages 1222-1230 (1966)

Jones et al. (Jones), Physiology and Biochemistry of Drought Resistance in Plants, Ch. 9, Betaines, pp. 171-204 (Academic Press, Australia) (1981)

Rayapati et al. (Rayapati), "Pyrroline-5-Carboxylate Reductase Is in Pea (Pisum sativum L.) Leaf Chloroplasts," Plant Physiol., Vol. 91, pp. 581-586 (1989)

McCue et al. (McCue), "Drought and salt tolerance: towards understanding and application," TIBTECH, Vol. 8, pages 358-362 (1990).

Brandriss et al. (Brandriss), "Proline biosynthesis in Saccharomyces cerevisiae: analysis of the PRO3 gene, which encodes Δ^1-pyrroline-5-Carboxylate reductase," J. Bact., Vol. 174, No. 15, page 5 176 (1992)

Dougherty et al. (Dougherty), "Cloning human pyrroline-5-carboxylate reductase cDNA by complementation in Saccharomyces cerevisiae," J. Biol. Chem., Vol. 267, No. 2, pages 871-875 (1992)

Hu et al. (Hu), "A bifunctional enzyme (Δ^1-pyrroline-5-carboxylate synthetase) catalyzes the first two steps in proline biosynthesis in plants," Proc. Natl. Acad. Sci., USA, Vol. 89, pages 9354-9358 (1992)

Van Rensburg et al. (Van Rensburg), "Proline accumulation as drought tolerance selection criterion: its relationship to membrane integrity and chloroplast ultrastructure in Nicotiana tabacum L.," J. Plant Physiol., Vol. 141, page 188-194 (1993)

GROUNDS OF REJECTION

Claims 59-63, 72 and 73 stand rejected under 35 U.S.C. § 112, first paragraph, as being based on a specification that fails to adequately describe the claimed invention.

Claims 59-63, 72 and 73 stand rejected under 35 U.S.C. § 112, first paragraph, as being based on a disclosure that fails to enable the claimed invention.

Claims 61-63 stand rejected under 35 U.S.C. § 112, second paragraph, as indefinite in the recitation of the term "increased."

Claims 59-61, 63, 72 and 73 stand rejected under 35 U.S.C. § 102(e), as being anticipated by Verma II.

Claims 59-63, 72 and 73 stand rejected under 35 U.S.C. § 103, as being unpatentable over the combination of Verma II and Rayapati.

We affirm the rejection under the written description provision of 35 U.S.C. § 112, first paragraph. We reverse the rejections under 35 U.S.C. § 112, second paragraph, § 102(e), and § 103. Having disposed of all claims under the written description provision of 35 U.S.C. § 112, first paragraph, we do not reach the rejection under the enablement provision of 35 U.S.C. § 112, first paragraph.

DISCUSSION

Definiteness:

Claims 61-63 stand rejected under 35 U.S.C. § 112, second paragraph, as indefinite in the recitation of the term "increased." According to the examiner

(Answer, page 11), the term "increased is a relative term lacking a comparative basis."

In response, appellants assert (Brief, page 8), "[a] plain reading of the claim indicates that the enzyme is increased relative to a Zea mays plant that lacks the recombinant DNA segment. No other logical reading can be made of the claim given the text." "The Examiner does not dispute that a plain reading of the claim could indicate that the enzyme is increased relative to a Zea mays plant that lacks the recombinant DNA segment." Answer, page 24. Nevertheless, the examiner finds (id.), "a plain reading of the claim could also indicate that the enzyme is increased relative to the level of the endogenous enzyme in the transgenic Zea mays plant. . . ." It would appear to us that this interpretation of term "increased" is the same as interpreting the claim to read "an increase relative to a Zea mays plant that lacks the recombinant DNA segment." Accordingly, we are not persuaded by the examiner's argument.

Alternatively, the examiner asserts that the term "increased" could be interpreted to be "relative to the level of the enzyme produced under non-stress conditions. . . ." We must confess that we are somewhat confused as to the basis for the examiner's argument. According to appellants' specification (page 5):

> [t]he enzyme encoded by the DNA sequence is expressed in the transgenic Zea mays plant or cell so that the level of the osmoprotectant in the cells of the transgenic Zea mays plant is substantially increased above the level in the cells of a Zea mays plant which only differ from the cells of the transgenic Zea mays plant in that the DNA segment is absent.

Therefore when the claims are read in light of appellants' specification it would appear that the claimed transgenic Zea mays plant, which comprises a DNA segment encoding an enzyme which catalyzes the synthesis of the osmoprotectant proline, grown under non-stress conditions would express the enzyme at an increased level relative to a Zea mays plant grown under non-stress conditions and does not comprise a DNA segment encoding an enzyme which catalyzes the synthesis of the osmoprotectant proline. As we understand appellants' claims when read in light of the appellants' specification, the same would be true if both plants were grown under stress conditions – the transgenic Zea mays plant would express the enzyme at an increased level relative to a Zea mays plant that does not comprise the DNA segment encoding the enzyme.

As set forth in Amgen Inc. v. Chugai Pharmaceutical Co., Ltd., 927 F.2d 1200, 1217, 18 USPQ2d 1016, 1030 (Fed. Cir. 1991):

> The statute requires that "[t]he specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention." A decision as to whether a claim is invalid under this provision requires a determination whether those skilled in the art would understand what is claimed. See Shatterproof Glass Corp. v. Libbey-Owens Ford Co., 758 F.2d 613, 624, 225 USPQ 634, 641 (Fed. Cir. 1985) (Claims must "reasonably apprise those skilled in the art" as to their scope and be "as precise as the subject matter permits.").

Furthermore, claim language must be analyzed "not in a vacuum, but always in light of the teachings of the prior art and of the particular application disclosure as it would be interpreted by one possessing the ordinary skill in the pertinent art." In re Moore, 439 F.2d 1232, 1235, 169 USPQ 236, 238 (CCPA 1971).

For the foregoing reasons we find that appellants' claims, when read in light of appellants' specification, are definite. Accordingly, we reverse the rejection of claims 61-63 under 35 U.S.C. § 112, second paragraph.

Written Description:

Claims 59-63, 72 and 73 stand rejected under 35 U.S.C. § 112, first paragraph, on the basis that the specification fails to adequately describe the claimed invention. Appellants do not separately group or provide separate arguments for the claims under rejection. Accordingly the claims will stand or fall together. Since all claims stand or fall together, we limit our discussion to representative independent claim 59. Claims 60-63, 72 and 73 will stand or fall together with claim 59. In re Young, 927 F.2d 588, 590, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991).

According to appellants' specification (page 4),

> an "osmoprotectant" is an osmotically active molecule which, when that molecule is present in an effective amount in a cell or plant confers water stress tolerance or resistance, or salt stress tolerance or resistance, to that cell or plant. Osmoprotectants include sugars such as monosaccharides, disaccharides, oligosaccharides, polysaccharides, sugar alcohols, and sugar derivatives, as well as proline and glycine-betaine.

According to the examiner (Answer, page 7), claim 59 is "drawn to a transformed monocot plant . . . comprising a recombinant DNA encoding any enzyme which catalyzes the synthesis of the osmoprotectant proline." The examiner finds, however, that claim 59 does "not recite the specific identity of any particular recombinant [proline] DNA" with which the plant has been

transformed. Id. In this regard, the examiner finds (Answer, page 15), the phrase "recombinant DNA segment encoding an enzyme which catalyzes the synthesis of the osmoprotectant proline" encompasses a genus of DNAs "of any sequence", "obtained from any source", "encoding any enzyme of any type", "which catalyzes the synthesis of the osmoprotectant proline." According to the examiner (Answer, bridging sentence, pages 15-16), appellants' specification does not disclose or refer to any DNA segment or enzyme within this genus. Specifically, the examiner finds (Answer, page 7),

> the specification does not describe any plant comprising any recombinant DNA encoding any enzyme which catalyzes the synthesis of the osmoprotectant proline. The specification also does not describe any recombinant DNA encoding any enzyme which catalyzes the synthesis of the osmoprotectant proline. Given that proline is an amino acid found in virtually all organisms, a variety of structurally and functionally distinct proline biosynthetic enzymes exist that are encoded by genes from divergent plant, animal and microbial species.

Therefore, the examiner concludes (Answer, page 8),

> Given the claim breadth and lack of description as discussed above, the specification fails to provide an adequate written description of the genus as broadly claimed. Given the lack of written description of the claimed products, any method of using them would also be inadequately described. Accordingly, one skilled in the art would not have recognized [a]ppellants to have been in possession of the claimed invention at the time of filing.

In response, appellants assert (Brief, page 4) "that genes encoding enzymes that elevate the level of proline were known in the art at the time of filing." In this regard, appellants direct attention (Brief, pages 4-5) to the following references:

1. Verma I, for a disclosure of mothbean Δ^1-pyrroline-5-carboxylate synthetase (P5CS).

2. Hu, for a disclosure of a "soybean homologue" of Δ^1-pyrroline-5-carboxylate synthetase (P5CS); however, Hu discloses only the mothbean PSC (see the abstact).

3. Verbruggen[1].

4. Dougherty, for a disclosure of human pyrroline-5-carboxylate reductase (P5CR).

5. Brandriss, for a disclosure of yeast Δ^1-pyrroline-5-carboxylate synthetase (P5CS).

6. Williamson[2].

Based on the foregoing, appellants assert (Brief, page 5), since "these sequences were known to those of skill in the art at the time of filing, [a]ppellants cannot be said to lack written description for these sequences."

In response, the examiner asserts (Answer, page 15), "[t]hat some genes encoding enzymes involved in proline biosynthesis were known in the art at the time of filing does not demonstrate that [a]ppellants were in full possession of the claimed genus. . . ." More specifically, the examiner finds (Answer, bridging paragraph, pages 16-17) that knowledge in the art of two enzymes involved in proline biosynthesis (1) Δ^1-pyrroline-5-carboxylate synthetase from mothbean (Verma and Hu), and (2) human (Dougherty) and yeast (Brandriss) pyrroline-5-carboxylate reductase are not sufficient to represent the entire

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[1] Verbruggen et al. (Verbruggen), "Osmoregulation of a pyrroline-5-carboxylate reductase gene in Arabidopsis thaliana," Plant Physiol., Vol. 103, No. 3, pages 771-781 (1993). According to the examiner (Answer, page 17), Verbruggen published November 1993, after appellants' August 25, 1993 effective filing date, and therefore cannot be relied upon in support of appellants' claimed invention. Accordingly, we have not considered appellants' arguments with regard to this reference.

[2] Williamson et al. (Williamson), "Molecular Cloning and Evidence for Osmoregulation of the Δ1-Pyrroline-5-Carboxylate Reductase (proC) Gene in Pea (Pisum sativum L.)," Plant Physiol., Vol. 100, pp. 1464-1470 (1992). According to the examiner (Answer, page 17), this reference was not properly made of record in the application and therefore was not considered. Accordingly, we have not considered appellants' arguments with regard to this reference.

genus of recombinant DNA segments that encode enzymes that catalyze the synthesis of proline and would be capable of being "expressed in a plant in an amount effective to confer tolerance or resistance to a reduction in water availability" as encompassed by claim 59. In this regard, we find that the evidence of record establishes that as of appellants' filing date three distinct pathways were known to exist for the production of proline. See e.g., Verma I, figure 4. The references relied upon by appellants teach the enzymes involved in the plant pathway:

While the P5CR enzyme taught by the evidence of record is involved in the last step (P5C → Proline) of the proline biosynthetic pathway in bacteria - bacteria utilize two separate enzymes (γGK and GSD) to convert glutamate to GSA as opposed to the single P5CS bifunctional enzyme utilized by plants. Id., and column 3, lines 41-58. Appellants fail to direct our attention to any evidence of record, and we find none, that teaches the enzymes involved in the third pathway for proline biosynthesis, which involves the intermediate ornithine. Verma I, figure 4.

Therefore, as we understand the evidence of record, while there are three separate pathways for the biosynthesis of proline, which appear to utilize a number of different enzymes, appellants would assert that the knowledge in the art of P5CS and P5CR is representative of the entire genus of enzymes involved in proline biosynthesis. We disagree.

When faced with circumstances similar to those at issue here, our appellate reviewing court has held claims to lack adequate description. For example, in University of California v. Eli Lilly and Co., 119 F.3d 1559, 43 USPQ2d 1398 (Fed. Cir. 1997), our appellate reviewing court held that claims generically reciting cDNA encoding vertebrate or mammalian insulin were not adequately described by the disclosure of cDNA encoding rat insulin. Id. at 1568, 43 USPQ2d at 1406. The court held that

> a generic statement such as "vertebrate insulin cDNA" or "mammalian insulin cDNA," without more, is not an adequate written description of the genus because it does not distinguish the claimed genus from others, except by function. It does not specifically define any of the genes that fall within its definition. It does not define any structural features commonly possessed by members of the genus that distinguish them from others. One skilled in the art therefore cannot, as one can do with a fully described genus, visualize or recognize the identity of the members of the genus.

Id. The court described two ways of properly describing a claimed genus:

> A description of a genus of cDNAs may be achieved by means of a recitation of a representative number of cDNAs, defined by nucleotide sequence, falling within the scope of the genus or of a recitation of structural features common to the members of the genus, which features constitute a substantial portion of the genus.

Id. The court has since clarified that the description of representative species does not necessarily have to include their complete structure (nucleotide sequence). See Enzo Biochem, Inc. v. Gen-Probe Inc., 323 F.3d 956, 964, 63 USPQ2d 1609, 1613 (Fed. Cir. 2002).

The Eli Lilly court held that a fully described genus is one for which a person skilled in the art can "visualize or recognize the identity of the members of the genus." On this record, as the examiner points out (Answer, page 16),

"[n]either [a]ppellants' specification nor the prior art identify any conserved sequences within the broad genus of any proline biosynthetic enzyme[s] or any gene encoding it, wherein such conserved sequences are correlated with the involvement in proline biosynthesis." Stated differently, the evidence of record fails to recite the structural features common to the members of the genus, which features constitute a substantial portion of the genus. In addition, as discussed above, appellants' specification fails to provide a recitation of a representative number of cDNAs, defined by nucleotide sequence, falling within the scope of the claimed genus. Since the specification does not describe the claimed DNAs adequately for those skilled in the art to distinguish the claimed DNAs from other DNAs, the specification does not adequately describe the claimed DNAs under the standard of Eli Lilly.

Adding to the complexity of the claimed invention, the examiner finds (id.) that according to claim 59, the recombinant DNA must encode an enzyme that has "the capacity to be expressed in a plant in an amount effective to confer tolerance or resistance to a reduction in water availability." According to the examiner (id.), appellants' "specification does not indicate which genes encoding which enzymes would have this capacity."

"The 'written description' requirement serves a teaching function, . . . in which the public is given 'meaningful disclosure in exchange for being excluded from practicing the invention for a limited period of time.'" University of Rochester v. G.D. Searle & Co., Inc., 358 F.3d 916, 922, 69 USPQ2d 1886, 1891 (Fed. Cir. 2004) (citation omitted). Another "purpose of the 'written

description' requirement is . . . [to] convey with reasonable clarity to those skilled in the art that, as of the filing date . . . [the applicant] was in possession of the invention." Vas-Cath Inc. v. Mahurkar, 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1117 (Fed. Cir. 1991). See also Enzo Biochem Inc. v. Gen-Probe Inc., 296 F.3d 1316, 1329, 63 USPQ2d 1609, 1617 (Fed. Cir. 2002). The requirement is satisfied when the specification "set[s] forth enough detail to allow a person of ordinary skill in the art to understand what is claimed and to recognize that the inventor invented what is claimed." University of Rochester, 358 F.3d at 928, 69 USPQ2d at 1896. Whether or not a specification satisfies the requirement is a question of fact, which must be resolved on a case-by-case basis (Vas-Cath, 935 F.2d at 1562-63, 19 USPQ2d at 1116).

On this record, we agree with the examiner that appellants' disclosure does not convey with reasonable clarity that, as of the filing date, appellants were in possession of a genus of DNA segments that encode an enzyme which catalyzes the synthesis of the osmoprotectant proline, and would be capable of being "expressed in a plant in an amount effective to confer tolerance or resistance to a reduction in water availability" as encompassed by claim 59. At best, appellants have established that two such genes, Δ^1-pyrroline-5-carboxylate synthetase and pyrroline-5-carboxylate reductase, were known in the art at the time their invention was made. For the foregoing reasons, we agree with the examiner that these two genes are not sufficient to describe the entire genus encompassed by appellants' claim.

On reflection, we find that the weight of the evidence falls in favor of the examiner. Accordingly, we affirm the rejection of claim 59 under the written description provision of 35 U.S.C. § 112, first paragraph. As discussed supra claims 60-63, 72 and 73 fall together with claim 59.

Enablement:

Claims 59-63, 72 and 73 stand rejected under 35 U.S.C. § 112, first paragraph, as being based on a disclosure that fails to enable the claimed invention.

Having disposed of all claims under the written description provision of 35 U.S.C. § 112, first paragraph, we do not reach the merits of the rejection under the enablement provision of 35 U.S.C. § 112, first paragraph.

Anticipation:

The instant application is a divisional of United States Application No. 08/599,714, filed January 19, 1996, now United States Patent No. 6,281,411 ('411). The '411 patent is a continuation-in-part of United States Application No. 08/113,561 ('561), filed August 25, 1993. According to appellants (Brief, page 9), the instant application claims priority to the '561 application filed August 25, 1993. The examiner does not dispute that the instant application receives benefit of the filing date of the '561 application. Therefore, the effective filing date of the instant application is August 25, 1993.

Claims 59-61, 63, 72 and 73 stand rejected under 35 U.S.C. § 102(e), as being anticipated by Verma II. Verma II was filed on June 29, 1994, after the effective filing date of the instant application. The examiner recognizes, however, that Verma II is a continuation-in-part of Verma I, which has a filing date of September 29, 1992. Accordingly, the examiner relies on the September 29, 1992 effective filing date of Verma II. We note, however, that in doing so the examiner can only rely on the subject matter disclosed in Verma II that is also disclosed in Verma I. Any subject matter in Verma II that is not present in Verma I does not receive the benefit of the September 29, 1992 filing date. In this regard, we note that the examiner concedes that Verma I does not disclose the subject matter of the invention before us on appeal - a transformed monocot plant. Answer, page 26.

As we understand the examiner's findings, Verma I teach mothbean plants (dicots) transformed with a recombinant Δ^1-pyrroline-5-carboxyl synthetase and suggest that "it would be desirable to use genetic engineering of the proline production pathway in plants to counter osmotic stress. . . ." Answer, page 27. According to the examiner (Answer, page 30), since monocot transformation was known in the art as of the filing date of Verma I, neither Verma I nor Verma II need to "disclose a method for transforming monocots and teach transformation vectors that could be used to achieve gene expression in monocots. . . ."

The examiner then leaps to the Verma II disclosure finding (Answer, page 12) that Verma II "teach corn, wheat, barley and rye monocot plants comprising a

recombinant DNA encoding Δ^1-pyrroline-5-carboxylate synthetase which catalyzes the synthesis of the osmoprotectant proline (column 17, claim 5 and column 18, claim 14)." The examiner reasons (id.), since Verma II discloses that the monocot plants are drought resistant, the Δ^1-pyrroline-5-carboxylate synthetase must be "expressed in an amount effective to confer tolerance or resistance to a reduction in water availability. . . ." Verma II is not entitled to the benefit of the September 29, 1992 filing date of Verma I for subject matter that is disclosed in Verma II but not in Verma I. Specifically, since Verma I does not disclose monocots transformed with Δ^1-pyrroline-5-carboxylate synthetase, Verma II does not receive the benefit of Verma I's filing date for this subject matter. Instead, the new subject matter disclosing transformed monocots present in Verma II receives benefit of the June 29, 1994 filing date of Verma II, which is after the August 25, 1993 effective filing date of the instant invention.

Therefore despite the examiner's assertion (Answer, page 26) that the methodology used by Verma II to transform monocots is the same as that used by Verma I to transform dicots, there is no evidence on this record that Verma I or Verma II disclosed a monocot transformed with Δ^1-pyrroline-5-carboxylate synthetase as of the August 25, 1993 effective filing date of the present application. "Under 35 U.S.C. § 102, every limitation of a claim must identically appear in a single prior art reference for it to anticipate the claim." Gechter v. Davidson, 116 F.3d 1454, 1457, 43 USPQ2d 1030, 1032 (Fed. Cir. 1997). "Every element of the claimed invention must be literally present, arranged as in

the claim." Richardson v. Suzuki Motor Co., Ltd., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Since there is no evidence on this record that every limitation of appellants' claimed invention was disclosed in either Verma I or Verma II prior to appellants' effective filing date the anticipation rejection of record cannot be maintained. Accordingly, we reverse the rejection of claims 59-61, 63, 72 and 73 under 35 U.S.C. § 102(e), as being anticipated by Verma II.

Obviousness:

Claims 59-63, 72 and 73 stand rejected under 35 U.S.C. 103, as being unpatentable over the combination of Verma II and Rayapati.

The examiner relies on Verma II as set forth above. Answer, page 13. As discussed above, Verma II does not disclose a transformed monocot prior to appellants' effective filing date. Further, the examiner finds (Answer, page 13), Verma II does "not teach a DNA segment encoding an amino terminal chloroplast transit peptide." The examiner relies on Rayapati to make up for the deficiencies in Verma. Id.

According to the examiner (Id.), Rayapati "teach that the proline biosynthetic enzyme Δ^1-pyrroline-5-carboxylate reductase (Δ^1-pyrroline-5-carboxylate synthetase) is localized in chloroplasts (page 582 column 2 last paragraph through page 583 column 2 second full paragraph)."[3] For clarity, we note that the chloroplasts were isolated from "Peas (Pisum sativum L. var

Argenteum)" – a dicot. Rayapati, page 581, column 2, "Plant Material." We do not find, and the examiner has not identified a disclosure in Rayapati, of a transformed monocot plant. Therefore, while the examiner may assert (Answer, page 14), "[m]ethods for transforming monocots such as maize via electroporation or biolistics were well-known in the art at the time of [a]ppellants' invention, namely August 1993," there is no evidence on this record to support this assertion.

Nevertheless, the examiner concludes (Answer, page 14),

> it would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to transform a plant with a recombinant DNA encoding both a proline biosynthetic enzyme and a chloroplast transit peptide, give [sic] the express purpose of making a transgenic drought-resistant plant. . . .

We disagree.

As set forth in In re Kotzab, 217 F.3d 1365, 1369-70, 55 USPQ2d 1313, 1316 (Fed. Cir. 2000):

> A critical step in analyzing the patentability of claims pursuant to section 103(a) is casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field. . . . Close adherence to this methodology is especially important in cases where the very ease with which the invention can be understood may prompt one "to fall victim to the insidious effect of a hindsight syndrome wherein that which only the invention taught is used against its teacher."
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> . . .
>
> Most if not all inventions arise from a combination of old elements. . . .Thus, every element of a claimed invention may often be found in the prior art. . . . However, identification in the prior art of each individual part claimed is insufficient to defeat patentability of the whole claimed invention. . . . Rather, to establish obviousness

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[3] In addition, the examiner finds (Id.), "[a]ppellants teach that DNA segments encoding amino terminal chloroplast transit peptides were well-known and used in the plant transformation art at the time of Applicant's invention (page 39 lines 7-9)."

> based on a combination of the elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the applicant. [Citations omitted].

In other words, "there still must be evidence that 'a skilled artisan, . . . with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed.'" Ecolochem Inc. v. Southern California Edison, 227 F.3d 1361, 1375, 56 USPQ2d 1065, 1075-76 (Fed. Cir. 2000).

As discussed above, there is no evidence on this record that would suggest a transformed monocot plant within the scope of appellants' claimed invention. At best, the evidence would suggest producing a transformed dicot plant. While the examiner asserts that methodology was available in the art as of appellants' effective filing date to produce a transformed moncot, the examiner fails to favor this record with any evidence to support this assertion, as well as to suggest that a person of ordinary skill in the art would have been motivated to do so at the time of appellants' effective filing date.

For the foregoing reasons we are compelled to reverse the rejection of claims 59-63, 72 and 73 under 35 U.S.C. § 103, as being unpatentable over the combination of Verma II and Rayapati.

SUMMARY

We affirm the rejection of claims 59-63, 72 and 73 under the written description provision of 35 U.S.C. § 112, first paragraph.

We do not reach the merits of the rejection of claims 59-63, 72 and 73 under the enablement provision of 35 U.S.C. § 112, first paragraph.

We reverse the rejection of claims 61-63 under 35 U.S.C. § 112, second paragraph.

We reverse the rejection of claims 59-61, 63, 72 and 73 under 35 U.S.C. § 102(e).

We reverse the rejection of claims 59-63, 72 and 73 under 35 U.S.C. § 103.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

Toni R. Scheiner
Administrative Patent Judge

Donald E. Adams
Administrative Patent Judge

Eric Grimes
Administrative Patent Judge

BOARD OF PATENT APPEALS AND INTERFERENCES

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